CONNOLLY, MAUREEN LUCILLE. A Comparison of the Effect of Body Build on Selected Tests of Arm Strength Among College Women. (1972) Directed by: Dr. Gail M. Hennis. Pp. 167

It was the purpose of this study to examine the performance of college women of three different body builds on selected tests of arm strength. Fourteen cable tensiometer arm and shoulder girdle strength tests served as the criterion measure. The three arm strength measures investigated were the flexed arm hang, modified pull-ups, and modified push-ups.

Three null hypotheses were tested: (1) there would be no significant difference in performance of subjects of three different body builds on the cable tensiometer tests, the flexed arm hang, the modified pull-ups, and the modified push-ups; (2) there would be no significant difference between the performance on the three selected arm strength tests within each body build group; and (3) there would be no significant difference in the relationship between the criterion of the cable tensiometer tests and the three other selected arm strength measures.

The subjects were forty-three women students, aged 18-20 years, who were enrolled in eleven recreational sports classes at The University of North Carolina at Greensboro during the 1970 spring semester. The subjects were chosen from 105 volunteers. Their height ranged from 62.5 to 65.5 inches. They were divided into three body build groups--slender, average, and heavy--determined by their weight and ponderal index.

The data were collected from measures of height, weight, ponderal index, fourteen cable tensiometer tests, total cable

tensiometer strength, the flexed arm hang, modified pull-ups, and modified push-ups. The three selected arm strength measures were ordered in a Latin square design and administered at two-day intervals. The data were treated statistically by the analysis of variance design, the Latin square analysis of variance design, the Pearson product-moment coefficient of correlation, and the Scheffe test of source of difference between group means. The means and standard deviations of the scores for all variables were computed. The .05 level of significance was chosen to test the null hypotheses formulated.

The three null hypotheses were rejected at the .05 level of confidence. In relation to these rejections, three general conclusions were drawn: (1) Persons of different body builds perform differently on four selected measures of arm strength--total cable tensiometer strength, the flexed arm hang, modified pull-ups, and modified push-ups; (2) The performance of the flexed arm hang, modified pull-ups, and modified push-ups does not differ within the average or the heavy build, however, performance on the flexed arm hang and the modified push-ups differ within the slender build; and (3) The only arm strength measure significantly related to the criterion measure of total cable tensiometer strength is the flexed arm hang for the average build.

A COMPARISON OF THE EFFECT OF BODY BUILD ON SELECTED TESTS OF ARM STRENGTH AMONG COLLEGE WOMEN

by

Maureen Lucille Connolly

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"Because of your strong faith, we kept the track
Whose sharp-set stones our feet had well nigh spent.
We could not meet your eyes if we turned back,
So on we went."

Unknown

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TABLE OF CONTENTS

Page

LIST OF TABLES vi

LIST OF FIGURES xii

Chapter

I. INTRODUCTION. 1

II. STATEMENT OF THE PROBLEM. 7

PURPOSE 7
Subproblems 7
Null Hypotheses 8

SUBJECTS. 8
COLLECTION OF DATA. 8
LIMITATIONS 9

III. REVIEW OF THE LITERATURE. 10

STRENGTH TESTS. 10
ARM STRENGTH TESTS. 15
Cable Tensiometer 18
Modified Push-Ups 20
Modified Pull-Ups 21
Flexed Arm Hang 23

BODY BUILD. 26
Methods of Assessing Body Build 27
Age-Height-Weight Studies 33
Ponderal Index Studies. 35
Anthropometric Studies. 37
Sheldon Studies 38

RELATIONSHIP OF BODY BUILD TO STRENGTH. 40
SUMMARY 43

IV. PROCEDURES. 44

SELECTION OF SUBJECTS 44
SELECTION PROCEDURES. 46
SELECTION OF TESTS. 47
Cable Tensiometer Tests 47
Arm Strength Tests. 47

Page

ADMINISTRATION OF TESTS. 48
Cable Tensiometer Tests. 48
Arm Strength Tests 53

TREATMENT OF DATA. 56

V. ANALYSIS AND INTERPRETATION OF DATA. 58

ANALYSIS OF DATA 59
Preliminary Statistics 59
Means and Standard Deviations. 65
Analysis of Variance of Arm Strength Measures. 68
Latin Square Analysis of Variance of Body Build. 77
Analysis of Variance of Body Build 80
Correlation. 83

INTERPRETATION OF DATA 93
Comparison Between Body Builds on Arm Strength Measures. 93
Comparison Between Arm Strength Variables Within Body Builds 98
Comparison Between Arm Strength Variables and the Criterion Measure. 102

VI. SUMMARY AND CONCLUSIONS. 109

SUMMARY. 109
CONCLUSIONS. 114
IMPLICATIONS 118

SELECTED BIBLIOGRAPHY. 121

APPENDIXES 130

APPENDIX A Raw Data Tables 131
APPENDIX B Conversion Table for Cable Tensiometer Readings. 146
APPENDIX C T-Scores of Arm Strength Measures T-Score Means 148
APPENDIX D Cable Tensiometer Correlations. 153
APPENDIX E Sample Scorecard for Recording Raw Data. 160
APPENDIX F Photographs of Cable Tensiometer Tests and Arm Strength Measures 162

LIST OF TABLES

Table		Page
1	Analysis of Variance of Weight for the Original Subjects of Slender, Average, and Heavy Body Build.	61
2	Significance of Difference Between Mean Differences of Slender, Average, and Heavy Body Builds for Weight of the Original Subjects	61
3	Analysis of Variance of Weight for the Subjects of Slender, Average, and Heavy Body Builds Who Completed the Study	62
4	Significance of Difference Between Mean Differences of Slender, Average, and Heavy Body Builds for Weight of Subjects Who Completed the Study	62
5	Analysis of Variance of Ponderal Index for the Original Subjects of Slender, Average, and Heavy Body Builds	63
6	Significance of Difference Between Mean Differences of Slender, Average, and Heavy Body Builds for Ponderal Index of the Original Subjects.	63
7	Analysis of Variance of Ponderal Index for the Subjects of Slender, Average, and Heavy Body Builds Who Completed the Study	64
8	Significance of Difference Between Mean Differences of Slender, Average, and Heavy Body Builds for Ponderal Index of Subjects Who Completed the Study	64
9	Means and Standard Deviations of Height, Weight, Ponderal Index, Cable Tensiometer Tests, Flexed Arm Hang, Modified Pull-Ups, and Modified Push-Ups for Total Subjects.	66
10	Means and Standard Deviations of Height, Weight, and Ponderal Index for Three Body Builds	68

Table | Page

11 Means and Standard Deviations of Cable Tensiometer Tests for Three Body Builds. 69

12 Means and Standard Deviations of the Flexed Arm Hang, Modified Pull-Ups, and Modified Push-Ups for Three Body Builds 70

13 Analysis of Variance of Total Cable Tensiometer Strength for Slender, Average and Heavy Body Builds. 71

14 Significance of Difference Between Mean Differences of Slender, Average, and Heavy Body Builds for Total Cable Tensiometer Strength 71

15 Analysis of Variance of the Flexed Arm Hang for Slender, Average, and Heavy Body Builds. 72

16 Significance of Difference Between Mean Differences of Slender, Average, and Heavy Body Builds for the Flexed Arm Hang 72

17 Analysis of Variance of the Modified Pull-Up for Slender, Average, and Heavy Body Builds. 73

18 Significance of Difference Between Mean Differences of Slender, Average, and Heavy Body Builds for the Modified Pull-Up. 73

19 Analysis of Variance of the Modified Push-Up for Slender, Average, and Heavy Body Builds. 74

20 Significance of Difference Between Mean Differences of Slender, Average, and Heavy Body Builds for the Modified Push-Up. 74

21 "t" Test Significance of Difference Between Mean Differences of Slender, Average, and Heavy Body Builds for the Modified Push-Up. 77

Table Page

22 3 x 3 Latin Square Analysis of Variance of the Slender Build for the Flexed Arm Hang, Modified Pull-Ups, and Modified Push-Ups. 79

23 3 x 3 Latin Square Analysis of Variance of the Average Build for the Flexed Arm Hang, Modified Pull-Ups, and Modified Push-Ups. 79

24 3 x 3 Latin Square Analysis of Variance of the Heavy Build for the Flexed Arm Hang, Modified Pull-Ups, and Modified Push-Ups 80

25 Analysis of Variance of the Slender Build for the Flexed Arm Hang, Modified Pull-Ups, and Modified Push-Ups. 81

26 Significance of Difference Between Mean Differences of the Flexed Arm Hang, Modified Pull-Ups, and Modified Push-Ups for the Slender Build. 81

27 Analysis of Variance of the Average Build for the Flexed Arm Hang, Modified Pull-Ups, and Modified Push-Ups 82

28 Analysis of Variance of the Heavy Build for the Flexed Arm Hang, Pull-Ups, and Modified Push-Ups. 82

29 Correlations Between Cable Tensiometer Tests and the Flexed Arm Hang, Modified Pull-Up, and Modified Push-Up Tests for the Slender Build. 84

30 Correlations Between Cable Tensiometer Tests and the Flexed Arm Hang, Modified Pull-Up, and Modified Push-Up Tests for the Average Build. 85

31 Correlations Between Cable Tensiometer Tests and the Flexed Arm Hang, Modified Pull-Up, and Modified Push-Up Tests for the Heavy Build. 86

32 Correlations Between Combined Right and Left Cable Tensiometer Tests and the Flexed Arm Hang, Modified Pull-Up, and Modified Push-Up Tests for the Slender Build 89

Table		Page
33	Correlations Between Combined Right and Left Cable Tensiometer Tests and the Flexed Arm Hang, Modified Pull-Up, and Modified Push-Up Tests for the Average Build.	90
34	Correlations Between Combined Right and Left Cable Tensiometer Tests and the Flexed Arm Hang, Modified Pull-Up, and Modified Push-Up Tests for the Heavy Build.	91
35	Correlations Between Total Cable Tensiometer Strength and the Flexed Arm Hang, Modified Pull-Up, and Modified Push-Up Tests for Slender, Average, and Heavy Builds	94
36	Raw Data of Height for Slender, Average, and Heavy Builds	132
37	Raw Data of Weight for Slender, Average, and Heavy Builds	133
38	Raw Data of Ponderal Index for Slender, Average, and Heavy Builds.	134
39	Raw Data of Elbow Flexion as Measured by the Cable Tensiometer for Slender, Average, and Heavy Builds.	135
40	Raw Data of Elbow Extension as Measured by the Cable Tensiometer for Slender, Average, and Heavy Builds.	136
41	Raw Data of Shoulder Flexion as Measured by the Cable Tensiometer for Slender, Average, and Heavy Builds.	137
42	Raw Data of Shoulder Extension as Measured by the Cable Tensiometer for Slender, Average, and Heavy Builds.	138
43	Raw Data of Shoulder Abduction as Measured by the Cable Tensiometer for Slender, Average, and Heavy Builds.	139
44	Raw Data of Shoulder Adduction as Measured by the Cable Tensiometer for Slender, Average, and Heavy Builds.	140

Table | Page

45 Raw Data of Shoulder Inward Rotation as Measured by the Cable Tensiometer for Slender, Average, and Heavy Builds. 141

46 Raw Data of Total Cable Tensiometer Strength for Slender, Average, and Heavy Builds. 142

47 Raw Data of the Flexed Arm Hang for Slender, Average, and Heavy Builds 143

48 Raw Data of Modified Pull-Ups for Slender, Average, and Heavy Builds 144

49 Raw Data of Modified Push-Ups for Slender, Average, and Heavy Builds 145

50 Conversion Table for Cable Tensiometer Readings. 147

51 T-Scores for the Flexed Arm Hang of Slender, Average, and Heavy Builds. 149

52 T-Scores for the Modified Pull-Ups of Slender, Average, and Heavy Builds. 150

53 T-Scores for the Modified Push-Ups of Slender, Average, and Heavy Builds. 151

54 Means of the T-Scores of the Flexed Arm Hang, Modified Pull-Ups and Modified Push-Ups for Three Body Builds and for Total Subjects. 152

55 Correlations Between Cable Tensiometer Tests and the Flexed Arm Hang for Slender, Average, and Heavy Builds 154

56 Correlations Between Cable Tensiometer Tests and the Modified Pull-Up for Slender, Average, and Heavy Builds 155

57 Correlations Between Cable Tensiometer Tests and the Modified Push-Up for Slender, Average, and Heavy Builds 156

58 Correlations Between Combined Right and Left Cable Tensiometer Tests and the Flexed Arm Hang for Slender, Average, and Heavy Builds. 157